Perceived sources of team confidence in soccer and basketball

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Abstract

Purpose. Although it is generally accepted that team confidence is beneficial for optimal team functioning and performance, little is known about the predictors of team confidence. The present study was aimed to shed light on the precursors of both high and low team confidence in two different sports. A distinction is made between sources of process-oriented team confidence (i.e., *collective efficacy*) and sources of outcome-oriented team confidence (i.e., *team outcome confidence*), which have often been confounded in previous research.

Methods. In a first step, two qualitative studies were conducted to identify all possible sources of team confidence in basketball and in soccer. In a second step, three quantitative studies were conducted to further investigate the sources of *team outcome confidence* in soccer (N = 1028) and in basketball (N = 867), and the sources of *collective efficacy* in basketball (N = 825).

Results. Players perceived high-quality performance as the most important factor for their team outcome confidence. With regard to collective efficacy, team enthusiasm was perceived as most predictive determinant. Positive coaching emerged as second most decisive factor for both types of team confidence. In contrast, negative communication and expression by the players or the coach was perceived as the most decisive predictor of low levels of team confidence. At item level, all studies pointed to the importance of team confidence expression by the athlete leaders (i.e., leader figures within the team) and the coach.

Conclusion. The present manuscript shed light on the precursors of high and low levels of team confidence. Athlete leaders and the coach emerged as key triggers of both upward and downward spirals of team confidence, thereby contaminating all team members.

Keywords: predictors, collective efficacy, team outcome confidence, athlete leadership, sport psychology, coaching

Introduction

Joe Paterno, an American football coach, once stated: "When a team outgrows individual performance and learns team confidence, excellence becomes a reality" (3). Having confidence in the abilities of the own team, in particular when facing difficulties, has been found to be an essential factor in the success of sports teams (24). Especially in tight games, where the stakes are high and the mental pressure peaks, team confidence can make the difference between winning and losing.

Collective Efficacy and Team Outcome Confidence

Recently, two types of team confidence have been distinguished (7, 13). The first type of team confidence is termed '*collective efficacy*' and was originally defined by Bandura (2) as: "a group's shared belief in its conjoint capability to organize and execute the courses of action required to produce given levels of attainment". This type of team confidence thus captures team members' confidence in the team's abilities to successfully accomplish the requested processes (e.g., following the tactical game plan, communicating well, encouraging each other).

The second type of team confidence is termed '*team outcome confidence*' and captures team members' confidence in the team's abilities to obtain a goal or to win a game. Collins and Parker (7) termed this type of confidence 'team outcome efficacy', whereas Myers and Feltz (26) used the term 'competitive or comparative efficacy'. Fransen et al. (13) made the appropriate remark that this outcome-oriented measure does not capture the process-oriented nature of efficacy beliefs as described by Bandura (2). Consequently, the 'efficacy' label that has often been used appears inappropriate. We will therefore adopt the conceptualization proposed by Fransen et al. (13) and use the label of 'team outcome confidence'. Both constructs (i.e., collective efficacy and team outcome confidence) will be assembled under the umbrella term 'team confidence'.

While collective efficacy is oriented towards the *process* of the own team, team outcome confidence is rooted in the comparison with the opponent team, thereby focusing on the *outcome*. The different focus of both constructs is reflected in their different relations with background characteristics (13). More specifically, collective efficacy was significantly predicted by the place in the ranking in the league table of the *own team* and the playing level of the *own team* in the game of last weekend, whereas team outcome confidence was significantly predicted by the *opponent*'s place in the ranking in the league table and by the score of the first game against the same *opponent*.

Outcomes of Team Confidence

Bandura (2) postulated that team confidence influences what a team chooses to do, how much effort is instilled into a task, and how persistent the team is. Furthermore, quantitative research has demonstrated that athletes who are more confident in the abilities of their team set more challenging goals (32), exert more effort, and demonstrate more resilience when facing adversities (16, 24). In addition, teams with high levels of team confidence were shown to be more cohesive (21). Furthermore, numerous studies revealed a positive relation between the strength of team confidence and the team performance (9, 27, 33, 38). In short, it is beyond dispute that team confidence can be considered as an important factor for the team's optimal functioning and, as a consequence, for the team's success.

When examining the outcomes of team confidence, most previous studies have disregarded the conceptual distinction between the two types of team confidence (i.e., collective efficacy and team outcome confidence). Two exceptions can be noted that investigated the relation between both types of team confidence and performance (7, 11). Although differences emerged with regard to the strength of the relation between each construct and performance, both studies revealed a positive relation between both forms of

team confidence (i.e., collective efficacy and team outcome confidence) and the subsequent team performance.

Sources of Team Confidence

Given the impact of players' team confidence on their performance, it is important to identify the factors that shape and influence this team confidence. In contrast with the abundant knowledge on the outcomes of team confidence, only limited research attention has been devoted to the sources of team confidence. The sparse research on confidence sources was inspired by Bandura (2), who identified four important sources for one's situation-specific self-confidence (i.e., self-efficacy): (1) *mastery experiences or past performance* (i.e., previous success boosts one's self-efficacy, whereas previous failure undermines it), (2) *vicarious experiences* (i.e., seeing similar people succeed/fail after persistent efforts can strengthen/undermine one's self-efficacy), (3) *social persuasion* (e.g., verbal persuasion by others that one has the requested abilities to perform a task), and (4) *physiological and emotional states* (e.g., stress or arousal could influence the confidence in the own abilities). Because of the specificity of a sports context, additional sources of athletes' self-confidence have been proposed, such as the received social support, superiority to the opponent, tactical awareness, and coaches' leadership (5, 18, 37).

Bandura (2) suggested that the four sources of self-confidence would also predict team confidence. However, just as the performance of a team is more complex than simply the sum of the individual performances, team confidence is also more complex than the sum of the self-confidence experienced by each individual player. Previous research supported this assumption by demonstrating that there are indeed team-specific sources of team confidence, such as preparation effort, past performance in practice or training sessions, and confident leadership (5, 6, 38).

Research Lacuna in the Current Knowledge

Three major limitations can be noted with regard to previous research on the sources of team confidence. First, it should be highlighted that team confidence is a dynamic construct, rather than a trait-like characteristic with a strong cross-temporal stability (26). More specifically, athletes' confidence may vary in the course of weeks, days, or even within a single game. In contrast with this dynamic nature of team confidence, previous research predominantly focused on sources of team confidence before the game (e.g., past performance, preparation effort) instead of sources during the game (e.g., being behind or in the lead, confidence expressed by teammates).

Second, previous research focused on the gas stations along the road to team confidence (i.e., the factors that stimulate team members' confidence in their team). In doing so, previous research has disregarded the traffic jams and road blocks (i.e., the obstacles that negatively impact upon players' confidence in their team). However, it could well be that these sources of low team confidence differ from their positive counterparts. Therefore, a thorough knowledge of the sources of both high and low team confidence would benefit coaches and sport psychologists to foster high levels of team confidence within their team and prevent downward spirals, in which negative team confidence and poor performance amplify each other (22, 29).

Finally, previous research has disregarded the difference between sources of collective efficacy and sources of team outcome confidence. Given the different focus of these constructs on respectively the process of the own team and the outcome against the opponent, it is conceivable that both types of team confidence are predicted by different sources. Because both constructs have a different impact on outcome variables (e.g., see 10), it is important to know how to influence each of these team confidence types.

To our knowledge, only one study so far has tackled the first two limitations (15). These authors conducted a qualitative study in which they asked expert coaches to list all possible sources of athletes' confidence in winning the game (i.e., sources of team outcome confidence, although the authors allegedly used the term collective efficacy). Together with a literature review and feedback from an expert focus group, a comprehensive list of 40 sources of team confidence in a volleyball context was obtained. This approach made it possible to move beyond the sources of self-confidence and investigate the sources that are specific for a team context. Next, a larger group of participants (N = 2365) rated these sources on their predictive power for team outcome confidence on a 7-point scale, anchored by "When this item occurs, I am totally convinced that my team will lose the game" (i.e., very predictive for low team outcome confidence) and "When this item occurs, I am totally convinced that my team will win the game" (i.e., very predictive for high team outcome confidence). As such, the perceived sources of both high and low team outcome confidence could be identified.

Three important results can be highlighted. First, participants rated the factor 'positive supportive communication' as most predictive for high team outcome confidence. This factor contained items with respect to the enthusiasm and the communication on the court during the game. In contrast with previous research that had identified *past* performance as most decisive source of team confidence (2, 5), Fransen et al. (15) revealed that in-game sources were more predictive for team outcome confidence.

Second, in-game positive supportive communication was not only considered as more important than *past* performance, but also outscored *in-game* performance sources (e.g., own team being in the lead or behind in the game). Although numerous studies have revealed a strong relationship between performance and team confidence (11, 33), the results of Fransen et al. (15) seem to indicate that phenomena such as communication, enthusiasm, and

encouragement might be more important predictors of team confidence than the score at a particular moment during the game.

Third, at the item level (i.e., when looking at the individual sources instead of at the overarching factors), the expression of team confidence by leader figures within the team (i.e., athlete leaders) emerged as the most important source of athletes' and coaches' team outcome confidence. These findings corroborate previous research indicating the important role of athlete leaders in affecting teammates' team confidence (1, 10, 12, 28, 38).

Despite the pioneering work of Fransen et al. (15) in the quest for the sources of team confidence, two major limitations of their study should be highlighted. First, the sample only included volleyball players and volleyball coaches. As such, it has to be established whether the observed findings also apply to other sports. For example, the source that emerged as most predictive for team outcome confidence was the enthusiasm when coming together after making a point. Coming together after making a point is a typical normative behavior of volleyball teams. In other team sports such as basketball, in which the game continues and there is no time to celebrate a point, it is possible that this source would not be as predictive for athletes' team outcome confidence as was the case in volleyball. Another limitation that is inherent to the study of Fransen et al. (15) is that, similar to previous research, they disregarded the distinction between team outcome confidence and collective efficacy. As such, the sources of collective efficacy remain concealed, even though they allegedly used the term 'collective efficacy' to refer to team outcome confidence. Given the difference between the two constructs, it still has to be established whether the observed sources of team outcome confidence also serve as sources for collective efficacy.

The Present Manuscript

The present manuscript includes five different studies to complement and extend previous knowledge on the sources of team confidence in two ways. First, to establish the sport-specificity of the sources observed by Fransen et al. (15), we examined the sources of team outcome confidence in two other sports, namely soccer and basketball. To ensure the relevance of the sources, we first conducted a qualitative study in each sport by asking soccer and basketball coaches to list all possible sources of team outcome confidence in their sport. We expected both similarities and differences between the observed sources in the different sports (Hypothesis 1). More specifically, on the one hand we hypothesized that also in soccer and basketball the in-game sources would be more predictive for team confidence than the sources before the game (Hypothesis 1a). On the other hand, we expected that different sources would emerge, dependent on the specific sport environment (Hypothesis 1b).

Second, to establish the differences between the sources of both types of team confidence (i.e., team outcome confidence and collective efficacy), we did not only examine the sources of *team outcome confidence* in basketball, but also the sources of *collective efficacy* in basketball. Given that team outcome confidence focuses on the outcome, whereas collective efficacy focuses on the process, we expected that this difference would be reflected in the sources of both constructs. In other words, we expected that outcome-oriented sources (e.g., performance-related sources) would be more predictive for team outcome confidence, whereas process-oriented sources (e.g., communication, encouragement) would be more predictive for collective efficacy (Hypothesis 2).

To summarize, five different studies were conducted to verify our hypotheses. In line with the study approach of Fransen et al. (15), we started within each sport with a qualitative study in order to obtain a list with all possible sources of team confidence within that specific sport. Subsequently, we conducted a quantitative study, in which we asked a larger group of

participants to rate the listed sources on their predictive power for team outcome confidence or collective efficacy.

- Study 1: Qualitative study in soccer on the sources of team outcome confidence
- Study 2: Quantitative study in soccer on the sources of team outcome confidence
- Study 3: Qualitative study in basketball on the sources of team outcome confidence
- Study 4: Quantitative study in basketball on the sources of team outcome confidence
- Study 5: Quantitative study in basketball on the sources of collective efficacy

Methods

Study 1 – Qualitative Study in Soccer

Forty-three soccer coaches identified for their sport which factors would strengthen athletes' confidence in obtaining the team's goal (e.g., winning the game). This data collection was completed in October 2011. The coaches were on average 40 years old (*SD* = 10.3) and had 12.9 years experience as a soccer coach (*SD* = 8.5). The 43 coaches were active at national level (*n* = 18), at provincial level (*n* = 25), and at youth level (*n* = 8). In total, the coaches provided a list of 105 possible sources of team outcome confidence.

A focus group, including three professional researchers in the area of sport psychology and one applied sport psychologist, provided feedback with respect to the clarity of the items and their applicability in soccer. Furthermore, sources that were considered as similar sources were combined into one source. For example, sources like "hanging one's shoulders", "shaking one's head", and "hanging one's head" were combined into the source "the players express discouraged body language". These adaptations resulted in a final list of 72 possible sources of team outcome confidence in soccer.

The final list contained sources referring to the pregame period (e.g., "last week my team trained well"), sources that occurred during the warming up (e.g., "the players warm up in a concentrated way before the game"), as well as sources during the game (e.g., "both field

and bench players cheer enthusiastically during the game") and sources during half-time (e.g., "the players listen carefully to the coach during the break). The coach-related sources of team outcome confidence were formulated both from the viewpoint of the coach (e.g., "as a coach, I motivate my players during the game") and from the viewpoint from the player (e.g., "our coach motivates his/her players during the game").

The doctoral research project, including the five presented studies, was approved by the institutional review board and the APA ethical standards were followed in the conduct of the study. No rewards were given for participation, informed consent was obtained from all participants, and anonymity was guaranteed.

Study 2 – Quantitative Study on the Sources of Team Outcome Confidence in Soccer

Participants. The attendance list of a soccer clinic for coaches, organized by TopSportsLab, was used to contact 152 coaches via e-mail, thereby asking them for the contact information of other soccer players and coaches. In total, 1866 coaches and players were invited to complete a web-based questionnaire in March 2012. Coaches and players who did not respond received a reminder two weeks later, and a second and final reminder was sent two weeks later if they had not yet responded.

In total, 1028 participants completed the questionnaire, resulting in a total response rate of 55.1%, which clearly exceeds the average response rate of web-based questionnaires (31). Our sample contained both male and female participants, but the overwhelming majority of the participants were males (98%). This sex imbalance reflects the dominance of male soccer players and coaches in Flanders (i.e., 94% male members of the Belgian Football Federation; 30). More detailed information on the participants can be found in Table 1.

Measures. In line with the study of Fransen et al. (15), participants rated the 72 sources, obtained in Study 1, on their predictive power for participants' own team outcome confidence (i.e., participants' confidence that their team will win the game). More

specifically, participants rated the items on a 7-point scale anchored by -3 (*if this item occurs, I am totally convinced that my team will lose the game*) and 3 (*if this item occurs, I am totally convinced that my team will win the game*). The neutral score of 0 indicated that no link was present between the mentioned source and participants' team outcome confidence.

Study 3 – Qualitative Study in Basketball

The qualitative study in a basketball context has been conducted in the fall of 2012. Thirty basketball coaches listed the possible factors that influenced athletes' team outcome confidence in basketball. The majority of these coaches were males (n = 29) and they were active in male teams (n = 20). Five coaches were active in female teams and five coaches had coaching experience with both male and female teams. The coaches had a mean age of 44.4 years (SD = 13.6) and 18.2 years of coaching experience within basketball (SD = 12.8).

The same procedure was adopted as in the qualitative study in soccer. Participants' answers resulted in a list of 150 possible sources of team outcome confidence. Again, a focus group (including three professional researchers in the area of sport psychology, one applied sport psychologist, and one professional basketball coach) discussed the sources regarding their clarity and applicability in a basketball context. A similar adaptation process as in the soccer study resulted in a final list of 96 possible sources of team outcome confidence, including sources before the game, during the warming up, and during the game.

Similarly to Study 1 in soccer, the final list of sources was formulated both from the viewpoint of the coach and from the viewpoint of the players. In Study 4 and Study 5, a larger group of basketball players and coaches rated these sources on their predictive power for respectively team outcome confidence in Study 4 and collective efficacy in Study 5.

Study 4 – Quantitative Study on the Sources of Team Outcome Confidence in Basketball

Participants. To contact basketball players and coaches in Flanders (Belgium), we cooperated with the Flemish Basketball Federation. We adopted a stratified sampling

technique on the database including all members of the Flemish Basketball Federation with respect to sex and function to create our database for Study 4 and Study 5. More specifically, the mailing list for both studies included the same number of males and females (i.e., equal number in both studies, which reflects the male dominance of the total sample in both studies), and an equal number of players, qualified coaches, and nonqualified coaches.

With regard to Study 4, 3983 coaches and players were invited in February 2013 to complete a web-based questionnaire. Coaches and players who did not respond received a reminder two weeks later. In total, 168 persons answered that they could not participate in our study; 80 coaches and 69 players were no longer active, and 19 persons could not participate because of other valid reasons such as mentally handicapped or not knowing the Dutch language. In total, 867 participants (637 players and 230 coaches) completed the questionnaire, resulting in a total response rate of 22.7%. No rewards were given and full confidentiality was guaranteed. More detailed information on the participants can be found in Table 1. The large majority of male participants in the present study (i.e., 73%) reflects the sex imbalance in the membership file of the Flemish Basketball Federation (i.e., 75% males and 25% females). The mean age of all participants was 25.7 years, which almost equals the average age of 26 years of all members of the Flemish Basketball Federation (30).

Measures. In line with the procedure in Study 2 and in the study of Fransen et al. (15), the participants rated the 96 sources, obtained in Study 3, on their predictive power for team outcome confidence on a 7-point scale anchored by -3 (*if this item occurs, I am totally convinced that my team will lose the game*) and 3 (*if this item occurs, I am totally convinced that my team will win the game*). The neutral score of 0 indicated that no link was present between the mentioned source and participants' team outcome confidence.

Study 5 – Quantitative Study on the Sources of Collective efficacy in Basketball

Participants. In March 2013, we invited 4012 coaches and players to complete a web-based questionnaire. No overlap existed between the coaches and players invited for Study 5 and the ones invited for Study 4. Coaches and players who did not respond received a reminder two weeks later. In total, 86 persons answered that they could not participate in our study; 25 coaches and 48 players were no longer active, and 13 persons could not participate because of other valid reasons such as mentally handicapped or not mastering the Dutch language. In total, 825 participants (605 players and 220 coaches) completed the questionnaire, resulting in a total response rate of 21.0%. No rewards were given and full confidentiality was guaranteed. More detailed information on the participants can be found in Table 1. The majority of male participants (74% males; 26% females) and the average age of our participants (26.3 years) closely resemble the characteristics of the membership file of the whole Flemish Basketball Federation (namely 75% males and a mean age of 26 years), which supports the representativeness of our sample with regard to sex and age.

Measures. Participants rated the same 96 sources as in Study 4, but now with regard to their predictive power for the process-oriented collective efficacy instead of the outcome-oriented team outcome confidence. More specifically, participants rated the sources on a 7-point scale anchored by -3 (*if this item occurs, I am totally convinced that my team will not function efficiently during the game*) and 3 (*if this item occurs, I am totally convinced that my team will function efficiently during the game*). The neutral score of 0 indicated that no link was present between the mentioned source and participants' collective efficacy.

Results

Study 2 – Sources of Team Outcome Confidence in Soccer

Component construction. We conducted a principal component analysis with Varimax rotation on the total soccer sample, including both players and coaches. To determine the number of components, we used the method of Cattell (4) in which the components are plotted at the X-axis and the corresponding eigenvalues at the Y-axis, also termed the scree plot. Cattell (4) recommended that the number of components should equal the point in the curve where the curve makes a twist towards a less steep decline. For sample sizes larger than 200, this scree plot has been demonstrated to be a reliable criterion for component selection (34).

Analysis of the scree plot resulted in eight components for the present study, explaining 50.2% of the variance. An item was retained to construct a factor based on the component when it had a minimum loading of .40, without having a cross-loading higher than .40 on any other component. One of the factors included 17 items, but based on content analysis of this factor, two subfactors could be distinguished. A principal component analysis on this factor confirmed this observation and resulted in two subfactors. These two subfactors will be treated as separate factors in the remainder of this study. Because items were omitted when they had a cross-loading higher than .40 on another component, 15 items were excluded in the final factor structure.

The principal component analysis thus resulted in nine factors of which detailed content information can be found in Appendix A (see SDC 1, Detailed statistics for Study 2). The obtained factors were labeled as follows: (1) positive coaching, 5 items; (2) team superiority, 5 items; (3) athletes' positive communication and confident body language, 10 items; (4) game preparation by the coach, 5 items; (5) recent team success, 5 items; (6) special starting circumstances, 6 items; (7) stimulating game circumstances, 5 items; (8) team

inferiority, 5 items; and (9) negative communication and expression, 11 items. Cronbach's α's varied between .69 and .88, demonstrating a high internal consistency of each factor (Table 2).

Predictive power for team outcome confidence. Table 3 presents the factors, ranked from most predictive for high team outcome confidence (extreme score of +3) to most predictive for low team outcome confidence (extreme score of -3). The neutral score of 0 indicates that the factor had no predictive power for team outcome confidence (neither in positive, nor in negative direction). The mean values, including their standard deviations are presented for the total sample, as well as for players and coaches separately.

Athletes perceived the factor 'team superiority' (e.g., 'the own team is in the lead during the game') as the most predictive factor for their confidence in winning the game. In contrast, coaches perceived their own 'positive coaching' as most predictive for their team outcome confidence, followed by 'athletes' positive communication and confident body language'. In line with Hypothesis 1a, the results revealed that, for both players and coaches, *in-game* sources (i.e., factor 1 'positive coaching', factor 2 'team superiority', and factor 3 'athletes' positive communication and confident body language') are considered as more predictive for team outcome confidence than sources *before the game* (i.e., factor 4 'game preparation by the coach', factor 5 'recent team success', and factor 6 'special starting circumstances').

At the negative side of the scale, 'negative communication and expression' was perceived by both players and coaches as the most predictive factor for low levels of team confidence, followed by 'team inferiority'. As such, it seems that negative communication, emotions, and body language (i.e., factor 9) are perceived as more decisive for low team outcome confidence than negative performance indicators (i.e., factor 8).

Background characteristics. Linear regression analyses were conducted for players and coaches separately to establish the relation between the different background characteristics (i.e., age, sex, team sex, experience, and competition level) and the perceived predictive power of the different factors. Each team outcome confidence factor was used as dependent variable. Because our sample size exceeds 1000 participants and thus results in extreme statistical power, only significant relations with a β-value greater than .20 will be discussed (i.e., explaining at least 4% of the variance in perceived predictive power of the factors). The linear regression analyses for both coaches and players, and for all nine factors, revealed only one significant effect with a $\beta > .20$; years of experience significantly predicted players' perception of the factor 'team inferiority' ($\beta = -.32$; $p = .01$). In other words, the older the players, the more negative this factor was rated and thus the more predictive for low team outcome confidence. The predictive power of the eight other factors for team outcome confidence did not differ between young and old participants, males and females, male and female teams, more and less experienced responders, active on low and high competition level. This conclusion holds for both players and coaches. These findings emphasize the generalizability of our findings.

Analyses at item level. To provide a deeper insight in these results, we examined the predictive power for team outcome confidence at item level as well. Table 4 presents the mean scores of the six sources most predictive for high team outcome confidence and the six sources most predictive for low team outcome confidence. The expressed team confidence by coaches and athlete leaders in the team emerged as key factors to foster higher levels of team outcome confidence within the team. On the negative side of the scale, athletes' discouraged body language, selfish play, and negative communication appeared to be the most important obstacles along the road to team outcome confidence.

Study 4 – Sources of Team Outcome Confidence in Basketball

Component construction. As in Study 2, a principal component analysis with Varimax rotation was conducted on the total basketball sample, including both players and coaches. Using the method of Cattell (4), six components were retained from the component extraction, explaining 47.7 % of the variance. An item was retained to construct a factor based on the component when it had a minimum loading of .50, without having a cross-loading higher than .40 on any other component. This criterion was stricter than in Study 2 in order to obtain internally coherent factors, given that the present study included more items (96 sources versus 72 sources in Study 2).

The six factors were labeled as follows: (1) positive task focus, 16 items; (2) positive coaching, 6 items; (3) pregame match focus, 11 items; (4) recent team success, 4 items; (5) team enthusiasm, 7 items; and (6) negative communication and expression, 17 items. More detailed information on the content of these factors, including the mean values and standard deviations for all included items can be found in Appendix B (see SDC 2, Detailed statistics for Study 4 and Study 5). The calculated Cronbach's α's of the six factors varied between .76 and .94, demonstrating good to excellent internal consistencies (see Table 5).

Predictive power for team outcome confidence. Table 5 presents all factors ranked according to their predictive power for players' and coaches' team outcome confidence. A positive task focus (e.g., each player fulfils his/her task well) and positive coaching (e.g., the coach motivates the players during the match) were perceived as most predictive for players' and coaches' team outcome confidence. Negative communication and expression of coach and athletes within the team was perceived as the most important determinant of participants' low team outcome confidence. Our findings confirm Hypothesis 1a in that the *in-game* sources (i.e., factors 'positive task focus' and 'positive coaching') emerged as more important predictors of team outcome confidence than the sources *before the game* (factors 'pregame

match focus' and 'recent team success'). However, it should be noted that the factor 'team enthusiasm', which includes sources during the game (e.g., the team reacts enthusiastically after making a point), was seen as the factor with the weakest link with team outcome confidence.

Background characteristics. To establish the impact of age, sex, team sex, experience, and competition level on the perceived predictive power of the sources of team outcome confidence, linear regression analyses were conducted for players and coaches separately. The different background characteristics served as predictor variables and the different team outcome confidence factors as criteria. Only one significant effect emerged, namely, younger players perceived the factor 'pregame match focus' as more predictive for their team outcome confidence than older players did (β = -.20; p = .01). Apart from this effect, the predictive value of the six factors for team outcome confidence did not differ between young and old participants, males and females, male and female teams, more and less experienced responders, active at low and high competition level. This conclusion holds for both players and coaches, which testifies that our findings can be generalized.

Analyses at item level. To investigate these results in more detail, we examined the predictive power of the sources of team outcome confidence at item level as well. Table 6 presents the mean scores of the six sources most predictive for high team outcome confidence and the six sources most predictive for low team outcome confidence. Players that perform at their maximum and encourage each other were seen as the most predictive sources for high team outcome confidence of both players and coaches. In addition, playing as one team, showing a fighting spirit, and athlete leaders who expressed their team confidence were perceived as important markers of high team outcome confidence. In contrast, the expression of low team outcome confidence by the coach, athlete leaders, and other teammates (i.e.,

expressing their conviction that their team will lose the game) were perceived as the most important hindrances along the way to team outcome confidence.

Study 5 – Sources of Collective Efficacy in Basketball

Component construction. A principal component analysis on the data of Study 5, using Varimax rotation and the method of Cattell (4), resulted in six factors. The content of these components closely resembled the factors of team outcome confidence (Study 4) but small differences could be noted. In total, 80.5% of the sources in Study 4 appeared in the corresponding factor in Study 5. Most of the other 19.5% of the items were excluded in the course of the factor construction of Study 5 because of cross-loadings higher than .40. Because of the considerable overlap, and to allow comparison between the sources of team outcome confidence and collective efficacy, we decided to use the same factors in Study 5, as obtained in Study 4. After all, both studies used exactly the same items, both in a basketball setting.

However, to ensure that the factor structure of Study 4 also matched the data obtained in Study 5, we conducted confirmatory factor analyses with Stata (version 13). These confirmatory factor analyses verified the obtained factor structure for each of the factors in Study 5. More details on the corresponding fit indices can be found in Appendix C (SDC 3, Fit indices of the confirmatory factor analyses for each of the collective efficacy factors of Study 5). Furthermore, the calculated Cronbach's α's of the six factors varied between .74 and .93, demonstrating a high internal consistency for each factor (see Table 5).

Predictive power for collective efficacy. In Table 5, all factors are presented in the sequence according to their predictive power for collective efficacy. In line with the findings for team outcome confidence, coaches perceived 'positive coaching' as most important predictor for their collective efficacy, whereas this factor is listed on the second place for the players. However, two major differences can be observed when comparing the sources of

collective efficacy (Study 5) with the previously obtained sources of team outcome confidence (Study 4). First, although 'team enthusiasm' was perceived as least important predictor for team outcome confidence, with respect to collective efficacy, athletes listed this factor as most predictive and coaches listed this factor as second most predictive. Second, the performance-oriented factors (i.e., 'positive task focus' and 'recent team success') were rated by players as respectively first and third most important source for their team outcome confidence. In contrast, for collective efficacy, these factors were perceived as third and fifth most important predictor. The performance-oriented sources are thus more predictive for team outcome confidence than for collective efficacy. These findings confirm Hypothesis 2 that different sources emerge as predictors for team outcome confidence and collective efficacy.

In line with the results in soccer, also in basketball teams 'negative communication and expression' is perceived as the most predictive factor for players' and coaches' collective efficacy. It is noteworthy that the mean value for collective efficacy (M = -1.40) is considerably lower than the mean value for team outcome confidence in Study 4 (M = -1.18); negative communication and expression thus seems to be more predictive for low levels of collective efficacy than for low levels of team outcome confidence.

Background characteristics. Linear regression analyses examined the relation between background variables (i.e., age, sex, team sex, experience, and competition level) and the perceived predictive value of the collective efficacy factors. Because our large sample resulted in extreme statistical power, only significant relations with a β-value greater than .20 will be discussed (i.e., explaining at least 4% of the variance in perceived predictive power of the factors). The only significant effects referred to the age of the players; the younger the players, the more predictive they rated 'positive coaching' (β = -.27; p = .001), 'pregame match focus' (β = -.38; p < .001), and 'team enthusiasm' (β = -.21; p = .01) for their collective efficacy beliefs.

For the coaches, age had no influence on their perceived predictive power of the different factors. In addition, years of experience, sex, team sex, and the competition level on which participants played or coached, had no influence on the way in which they perceived the different collective efficacy factors as being predictive for their collective efficacy beliefs.

Analyses at item level. To provide more insight in our results, we analyzed the data at item level as well. The results are presented in Table 6, for the whole sample, as well as for players and coaches separately. The most important sources for collective efficacy at item level resembled the ones for team outcome confidence. Also here, the encouragement among players, the maximal performing of the players, and the team outcome confidence expressed by the athlete leaders were seen as very predictive for participants' collective efficacy. These findings support Hypothesis 1a that in-game sources are more predictive for collective efficacy perceptions than sources before the game.

It should be noted though that athlete leaders seem to play an even more decisive role in determining athletes' collective efficacy (M = 1.92; rank 3) than in determining their team outcome confidence (M = 1.75; rank 6). Furthermore, the involvement of the bench players completed the top 6 of collective efficacy sources, whereas within the list of team outcome confidence sources, this source was only ranked at the 24th place. On the negative side of the ranking, low team outcome confidence expression by the coach, athlete leaders, the captain, and other team members was perceived as the main source of players' and coaches' lack of collective efficacy. In line with the results of Study 4, also here negative communication and selfish play completed the top 6.

Compared to players, coaches listed other sources as most predictive for their collective efficacy. More specifically, the top 4 of the coaches was based on their own coaching (i.e., the coach motivates the players during the game, displays enthusiasm, steers his/her players tactically during the game, and gave a motivational pep talk before the game).

Although coaches rated their own coaching as very important for their own collective efficacy, these actions were perceived as less decisive by the players. This is illustrated by the lower rankings of these items for the players: place 15, 19, 16, and 30, respectively. Despite these differences, we can conclude that both for coaches and for players, the most important predictors for high and low collective efficacy were in-game sources, thereby again supporting Hypothesis 1a in that in-game sources are perceived to be more predictive for collective efficacy than sources before the game.

Discussion

Although the benefits of team confidence for optimal team functioning and team performance are beyond dispute (e.g., see 33), the factors that cause high or low levels of team confidence have remained underinvestigated. To obtain a better insight in this area, the present manuscript includes five studies, which each contribute to our quest to the gas stations and traffic jams along the road to team confidence.

The present findings point to positive coaching as important fuel to foster team outcome confidence. This finding holds for both soccer and basketball, thereby corroborating previous research that coaches have an important impact on the team outcome confidence of the players (36). For players, performance-oriented sources (e.g., the own team in the lead, players fulfilling their task well) were even more important in predicting their team outcome confidence, both in soccer and in basketball. With regard to their collective efficacy, team enthusiasm (i.e., bench and field players are enthusiastically involved in the game) was perceived as more important fuel than the performance-oriented sources. This finding is in line with previous research pointing to enthusiasm as one of the key elements in upward spirals of collective efficacy (29).

Beyond the Gas Stations to the Traffic Jams and Roadblocks

Our results consistently revealed that negative communication and expression (e.g., low team confidence expressed by athlete leaders or the coach) were perceived as critical obstacles to obtain team outcome confidence and collective efficacy. This finding holds for both soccer and basketball and for both players and coaches. Study 2 added that in soccer the communication and body language of athletes was even more destructive for building team outcome confidence than team inferiority (i.e., the fact that the team was behind in the game). These findings align with previous research in volleyball (15), which revealed that negative emotional reactions of players were perceived as most predictive for low team outcome confidence, thereby outscoring performance-oriented factors such as ‘errors of the own team’ and ‘the own team being behind in the game’.

Sources Before the Game Versus Sources Within the Game

Previous research predominantly focused on team confidence sources before the game. However, the present findings demonstrated that both in soccer and in basketball in-game sources are more predictive for both team outcome confidence and collective efficacy than sources before the game, thereby confirming Hypothesis 1a. These results corroborate the study of Fransen et al. (15), who demonstrated in a volleyball setting that in-game sources were more predictive for team outcome confidence than sources before the game.

Team Confidence Sources Across the Different Sports

When comparing the sources of team outcome confidence across the different sports, several similarities can be noted. Both soccer and basketball coaches indicated their own positive coaching as most predictive for their team outcome confidence. In contrast, both soccer and basketball players listed a performance-oriented factor (i.e., ‘team superiority’ in Study 2 and ‘positive task focus’ in Study 4) as most predictive for their team outcome confidence. Despite these similarities between the two sports, also sport-specific differences

were observed, which confirmed Hypothesis 1b. Fransen et al. (15) demonstrated that in volleyball, in-game performance sources (e.g., 'the own team is in the lead') were considered less predictive for participants' team outcome confidence than both 'positive supportive communication among players' and 'positive performance indications before the game' (e.g., my team ranks higher than the opponent). In contrast, the present manuscript revealed that soccer and basketball players perceived in-game performance as most predictive for their team outcome confidence.

A more thorough analysis of the factor content for both studies further supports the existence of sport-specific differences. The content of the 'team superiority' factor for soccer (Study 2) strongly resembles the content of the factor 'own team is in the lead' in volleyball (15). The fact that these performance-oriented sources were much more predictive for players' team outcome confidence in soccer than in volleyball can be related with sport-specific game characteristics. In volleyball, being in the lead or being behind in a set is not that predictive for the final outcome: even when a team has lost a set, the team can easily start over the next set and eventually win the game. By contrast, in soccer, scoring a point (i.e., a goal) is much more decisive for the final game outcome. This is illustrated by the fact that in volleyball at least 75 points are scored in each game (i.e., three sets of 25-0), while in soccer, for example in the 2012 European Championship, only 76 goals were scored in 29 games (i.e., average number of 2.6 goals per game) (35). Furthermore, Fransen et al. (15) only included performance sources within a set (e.g., being in the lead of 5 points in a set), whereas Study 2 of the current manuscript assessed performance sources with respect to the whole game (e.g., being in the lead in the first/second half of the match). It is obvious that the second measure is more decisive for the final game outcome than the first, and as such more predictive for the confidence in winning the game.

If we compare volleyball with basketball, it should be noted that, in contrast with volleyball, the continuous additive score in basketball does not allow to start over with a clean sheet after a quarter of poor play. However, given the larger progress of the score in basketball compared to soccer, it is likely that differences between the sports emerge with regard to the importance of the performance-oriented team outcome confidence sources. At first sight, this does not seem to be the case: the performance-oriented factors were listed in both sports as most important for players' team outcome confidence. However a further content analysis of the respective factors revealed that, unlike the previous study in volleyball, and unlike Study 2 in soccer, the factor 'positive task focus' in basketball contains more process-oriented performance sources, such as 'my team controls the rebound' and 'each player fulfils his/her task well', instead of outcome-oriented sources (e.g., being in the lead) (see Appendix B for a full overview, SDC 2, Detailed statistics for Study 4 and Study 5). Further comparison at item level revealed that in basketball the source 'my team is in the lead halfway the match' was perceived only as 58th source out of the 92. In contrast, in soccer the sources 'being in the lead during the first (second) half of the match' were respectively perceived as 25th and 6th most important source of team outcome confidence (of the 72 sources).

Besides the differences in game scoring, other game characteristics can also cause differences in team confidence sources between the different sports. For example, the source that was perceived as most predictive for players' team outcome confidence in volleyball (15) was the enthusiasm with which the players reacted after scoring a point. It should be noted though that in a volleyball context players coming together after each scored point is a normative behavior; it happens when the team is playing good, but also when playing poorly. As such, there is a large variance in the enthusiasm with which the players come together, and

that caused the source to be perceived as an important indicator of athletes' confidence in winning the game.

In soccer, players perceived this source only as 19th most predictive source for their confidence in winning the game. This can be explained by the fact that in soccer, goals are much rarer than points in volleyball. Therefore, soccer players are very enthusiastic after most goals and it is likely that there is a much smaller variance in the extent to which a team celebrates different goals. Furthermore, the distance between the players is larger in soccer than in volleyball, which implies that it is not always possible for the goal keeper, for example, to celebrate with the other players.

Although basketball is also characterized by a higher frequency of scoring, players rated the enthusiasm when scoring only as 40th most predictive source of their team outcome confidence (Study 4). Unlike in volleyball and in soccer, where the game is interrupted by short breaks after each point that allow for celebrating a point, in basketball the game continues. Because of this different game structure, it is simply not possible for basketball players to come together after each point and celebrate. These sport-specific differences reflect that the sport environment and the game structure are also important variables that impact on the sources of team confidence (Hypothesis 1b).

Collective Efficacy and Team Outcome Confidence

It has been established that team outcome confidence and collective efficacy are clearly distinct constructs and therefore should be distinguished in research (13). Unfortunately, earlier studies that examined the sources of team confidence did not follow these guidelines. In order to extend the current knowledge in this area, Study 4 examined the sources of team outcome confidence and Study 5 identified the sources of collective efficacy. The fact that both studies were conducted in a basketball setting and both studies used the

same sources for their investigation allowed a thorough comparison between the two constructs.

Two eye-catching differences emerged between the sources of team outcome confidence (Study 4) and the sources of collective efficacy (Study 5). First, basketball players rated team enthusiasm (e.g., 'the bench players are involved and concerned about the game' or 'my team reacts enthusiastically after scoring a point') as the least predictive factor for their team outcome confidence (Study 4). In contrast, the same factor emerged as most predictive for players' collective efficacy (Study 5).

Second, with regard to the performance-oriented factors two differences can be noted. The factor 'positive task focus' (e.g., the players perform at their maximum) was ranked as most important for players' team outcome confidence, but only as third most predictive for players' collective efficacy. Similarly, the factor 'recent team success' (e.g., 'my team ranks higher than the opponent') was ranked as third most predictive source of basketball players' team outcome confidence (Study 4), while the same factor emerged as least predictive for players' collective efficacy (Study 5). These findings perfectly align with Hypothesis 2, assuming that process-oriented sources would be more predictive for collective efficacy, whereas outcome-oriented sources would be more predictive for team outcome confidence.

The Leader as Role Model

At item level, all studies in the present manuscript pointed to the importance of athlete leaders. More specifically, athlete leaders who believe that their team can win and who express this confidence on the field were perceived to positively impact players' and coaches' team outcome confidence in soccer (Study 2), their team outcome confidence in basketball (Study 4), and their collective efficacy in basketball (Study 5). Our findings thereby corroborate previous research, demonstrating the significant positive impact of athlete leaders' on teammates' team confidence (10, 28, 38). Furthermore, the study findings are in

line with a recent experimental study in a basketball setting (12). In this experiment, the authors manipulated the team confidence expression of the athlete leader. The results revealed an effect of team confidence contagion such that team members had greater team confidence and also performed better when the leader expressed high confidence in the team's success.

Previous research demonstrated a stronger relation between athlete leaders' quality and teammates' collective efficacy than with teammates' team outcome confidence (10). This finding is reflected in our results, and more specifically in the higher ranking of athlete leaders in the list of sources of collective efficacy compared with their ranking in the list of sources of team outcome confidence. In addition, all the studies in the present manuscript demonstrated that, by expressing team confidence, not only athlete leaders, but also the coach influenced players' team confidence. This finding holds for team outcome confidence in soccer (rank 3) and for both team outcome confidence and collective efficacy in basketball (rank 10 and rank 6, respectively), thereby corroborating previous research demonstrating the positive impact of the coach on players' team confidence (36).

It is thus beyond dispute that leader figures are perceived to have a positive impact on both types of team confidence. Our present findings in basketball (i.e., Study 4 and Study 5) added that athlete leaders' behavior does not necessarily imply a positive impact on teammates. In contrast, athlete leaders who express low levels of confidence were perceived as one of the most predictive sources of low team confidence (Study 4) and low collective efficacy (Study 5). In this regard, our findings corroborate those of Fransen, Haslam, et al. (12), who demonstrated in an experimental study that a leader who expressed low confidence had a negative impact on team members' team confidence, thereby also triggering a decline in their performance. These findings can be extended to the other team members: the top 6 of sources most predictive for low team confidence (Study 4 and Study 5) included the

expression of low team confidence by athlete leaders, but also by the coach, by the team captain, and by the other players.

A case study with an elite handball team supported these findings by revealing that the negative emotions and behavior of the coach and teammates had a clear influence on players' own emotions and behavior (1). As a consequence, these negative emotions spread throughout the team, thereby contaminating all team members, and causing a collective collapse: a sudden underperformance of the team. Other reported factors that possible caused such a collective collapse were negative communication, frustrated reactions of players and coach, and the disregarding of the tactics agreed upon. It is interesting to observe that these behaviors emerged also in our studies as important sources of low levels of team confidence. Similar to our findings, Apitzsch (1) noted that it was in particular the failure of the role models of the team (i.e., coach, team captain, and other athlete leaders) that caused a negative emotional contagion leading to the spread of low levels of team confidence throughout the team, and in turn a collective collapse of the team performance. Team confidence thus seems to be a bug that spreads throughout the team, in a positive way, but maybe even more pertinent in a negative way.

Strengths of the Present Manuscript

Instead of using the sources of team confidence in a volleyball setting, as examined by Fransen et al. (15), the present investigation relied on two newly-conducted qualitative studies. By asking a select group of respectively 43 and 30 coaches in soccer and basketball to identify all possible sources of high and low team confidence in their specific sport, we obtained a comprehensive list of sport-specific sources in basketball and soccer. These lists of possible sources, respectively 72 items for soccer and 96 items for basketball, were much larger than the 40-item pool that was used in the previous study in volleyball (15). As such, the present lists captured many new sources, such as the supportive in-game communication

of the coach and his/her expression of team confidence, thereby allowing a more thorough examination of the sources of team confidence.

Second, the present manuscript encompasses three quantitative studies that each relied on a large sample size (i.e., $N = 1028$ for Study 2; $N = 867$ for Study 4; $N = 825$ for Study 5). These studies included the perceptions of both players and coaches, thereby allowing the identification of the team confidence sources for players and for coaches. Although some smaller differences emerged between players and coaches (e.g., positive coaching was more important for coaches' team confidence than for players' team confidence), it can be concluded that overall players and coaches share very similar perceptions on the sources of team confidence.

In addition, the large samples were characterized by a variety of participants with regard to age, sex, years of experience, team sex, and competition level. With the exception of some minor differences, our results revealed a high consistency in the perceptions of young and old participants, males and females, more and less experienced players and coaches of male and female teams, active at high and low competition level. Therefore, our results did not confirm the observed sex differences found in previous research (18, 37). Instead, the observed consistency for all these different groups testifies to the generalizability of our findings.

Limitations and Further Research

By recognizing the limitations of the present study, several opportunities for future research emerge. First, the present study points at the importance of athlete leaders and coaches, and more specifically at the importance of their expressed team confidence in affecting team members' team confidence. However, our findings do not shed light on the underlying processes of how athlete leaders and coaches influence their teammates. In this regard, Fransen, et al. (10, 12) already highlighted team identification (i.e., the degree in

767 which leaders are able to create a sense of ‘us’) as one of the underlying mechanisms of this
768 team confidence contagion process. Further research could examine other potential underlying
769 mechanisms such as vicarious experiences and social persuasion. These mechanisms,
770 originally indicated by Bandura as ways to foster one’s self-efficacy (2), might also explain
771 the contagion of team confidence. Modeling the confidence expressed by the leader is a form
772 of vicarious experience that could explain why team confidence spreads throughout the team.
773 As our results indicated, not only the athlete leaders, but also the coach and the other players
774 in the team could serve as sources for vicarious experiences, both in a positive and in a
775 negative way. Furthermore, by verbal persuasion (e.g., encouraging, supporting
776 communication, evaluative feedback) athlete leaders can influence their teammates’ team
777 confidence (5). Zaccaro, Rittman, and Marks (39) confirmed that these strategies can be used
778 by effective athlete leaders to build confidence in their team.

779 Second, team confidence has been demonstrated to be a dynamic construct that varies
780 in the course of weeks, days, or even within a single game (11, 26). Similarly, it is likely that
781 also the sources that predict team confidence vary over time. Previous research on self-
782 confidence supports our assumption by revealing that some sources of self-confidence
783 fluctuated during the precompetition period (e.g., physical/mental preparation, situational
784 favorableness), while other sources remained stable throughout time (e.g., social support,
785 coach’s leadership) (20). It is in particular this variance in the sources of team confidence that
786 possibly underlies the observed variance in team confidence itself. Future research should
787 provide more insight in the stability of team confidence sources over time, not only before a
788 competition, but also within a game.

789 A third limitation of the present study pertains to the fact that Study 4 and Study 5
790 relied on different samples. Because we used a stratified sampling technique, both samples
791 were very similar with regard to the percentage of male/female teams and players/coaches.

Further descriptive analyses (see Table 1) revealed that also the distribution across the different competition levels and the average age and years of experience of both players and coaches were very similar for both Study 4 and Study 5. In addition, with regard to the sex and the average age of the participants, both samples were shown to be representative for the whole member list of the Flemish Basketball Federation. The similarity between our samples and the large sample size partly justifies our direct comparison of the sources of team outcome confidence (Study 4) and the sources of collective efficacy (Study 5). Yet, a fruitful avenue for further research would be to ask the same players and coaches about their perceptions of the sources of both constructs, rather than using two different samples.

Practical Implications

In the present manuscript, we provided more insight in the sources that are generally perceived as most predictive for players' and coaches' high and low team confidence. However, this does not mean that our findings are valid for each individual team, each individual player, and each individual coach. With respect to self-confidence, Vealy et al. (37) suggested that it is important first to understand each athlete's particular source of self-confidence before intervening to enhance that self-confidence. The same may hold for team confidence. In this regard, coaches should do well to identify the specific sources of team confidence for their team, or even for each individual within that team. As such, coaches are able to construct a positive team environment and to interact in an optimal individualized way with each athlete in order to obtain high levels of team confidence throughout the game.

Furthermore, as noted above, team confidence is a dynamic construct that changes throughout the game, thereby affecting players' performance (11, 33). Based on previous research findings that demonstrated the positive impact of team confidence on performance, one could assume that the higher the level of players' team confidence, the better. However, previous research also pointed to the risks of overconfidence, such as faulty assessments,

unrealistic expectations, and hazardous decisions (19). Furthermore, Apitzsch (1) suggested that overconfidence can lead to mistakes, followed by negative communication, and choking (i.e., performance decrements in games of which the stakes are high and pressure is involved). In addition, unstable overconfidence may cause a sudden collapse of team confidence, which spreads throughout the team, thereby instigating a collective collapse in performance.

As Arsenal coach Arsene Wenger noted: “confidence is the easiest thing to lose in football but the most difficult to win back” (23). Therefore, instead of striving for the highest possible confidence, it might be a better strategy for coaches to strive for realistic levels of team confidence that are stable throughout the game. In this regard, Watson et al. (38) pointed to the importance of athlete leaders in creating “self-correcting spirals of team confidence”. More specifically, confident athlete leaders were able to decouple team confidence and performance outcomes: after repeated successes, athlete leaders highlighted the mistakes in order to prevent overconfidence, whereas after repeated failures the athlete leaders strengthened teammates’ confidence.

Because the variation in team confidence can be caused by the variation in the sources of team confidence, coaches should strive to enhance the stability of the sources that are most predictive for team confidence. In this regard, it should be noted that some sources are more controllable than others. For example, ‘being in the lead’ or ‘being behind’ are important predictors of players’ team confidence, but yet to a large extent out of control for coaches and sport psychologists. Therefore, it is better to focus on the more controllable sources, such as the expression of team confidence by the coach and by the athlete leaders. In this respect, Hatfield et al. (17) proposed to appoint a team captain that clearly expresses positive emotions and is therefore able to positively influence the other team members.

However, Apitzsch (1) made the pertinent observation in his case study of an elite handball team that the pressure on the team captain can become too high, as a result of which

the team captain is not able to live up to the high expectations of team members. As a consequence, the failure of the team captain might trigger a collective collapse. To avoid the risk of relying on one single person, shared leadership can be recommended. A recent study demonstrated that the number of different athlete leaders in the team was related to higher levels of team confidence among the team members (14). The study revealed four different leadership roles that athletes can occupy (i.e., task leader, motivational leader, social leader, and external leader). Although the motivational leader in particular is in charge for obtaining high levels of team confidence in the team, it has been shown that the perceived leadership quality of each of the four leaders depends strongly on the leader's ability to influence the team confidence of his/her teammates.

To enhance the stability of the predictors of team confidence, we should also look beyond the athlete leaders. In this regard, the tactical and encouraging communication among the players is also an important source of team confidence that can be trained. In particular in difficult situations, it is important for players to keep communicating and supporting each other. Apitzsch (1) noted that the loss of communication among the players is one of the characteristics of a collective collapse. Therefore, coaches should simulate such disadvantageous situations on training, in which the team is behind or encounters difficulties. By providing sound feedback afterwards and discussing possible solutions with the players, teams learn how to optimize their communication, and as a consequence their team confidence levels, also in difficult situations. Furthermore, it has been demonstrated that athlete leaders also have a key impact in the maintenance of this team communication (8).

A final practical implication pertains to the sources of low team confidence. Previous research demonstrated that low levels of team confidence can trigger negative confidence-performance spirals, in which low team confidence and poor performance amplify each other (22, 29). Therefore, coaches should strive to avoid these low levels of team confidence at any

time. As our findings indicated, pointing athlete leaders to their responsibility in expressing high levels of team confidence (and in particular avoid low levels of team confidence) is a first step in the good direction. In addition, our results revealed that in-game sources are much more decisive for the development of team confidence than sources before the game. Instead of spending much time on the pregame speech, it might thus be better for coaches to prepare their players beforehand on how to cope with potential obstacles during the game. This strengthened team resilience (i.e., the increased ability to cope positively with negative stressors) may diminish the detrimental impact of the hindrances that players encounter during the game. In line with our findings, Morgan et al. (24, 25) identified high levels of team confidence and shared athlete leadership as characteristics of high-resilient teams.

Conclusion

The present manuscript shed light on the precursors of team confidence, thereby identifying the gas stations along the road to team confidence. However, you can refuel as much as you want, if a traffic jam has developed or you bump up against a roadblock, you are stuck. The present manuscript offers a useful GPS to recognize and prevent these low levels of team confidence, which might be even more decisive for optimal team functioning and performance than striving to maximize players' team confidence. If a traffic jam has already developed, it has been demonstrated that athlete leaders have the potential to counteract these downward team confidence spirals, thereby provide the necessary fuel to trigger and intensify upward spirals of team confidence.

Conflicts of Interest, Source of Funding, and Acknowledgments

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Table 1

Sample characteristics for all quantitative studies.

Study (sport)	Team sex	Level	Function	M_{age} (years)	$M_{experience}$[a] (years)
Study 2 (soccer)	1000 ♂ (97%) 28 ♀ (3%)	230 N (22%) 413 P (40%) 20 R (2%) 361 Y (35%)	506 players (49%) 522 coaches (51%)	22.4 (6.6) 39.9 (10.6)	16.1 (6.6) 11.1 (7.8)
Study 4 (basketball)	609 ♂ (70%) 258 ♀ (30%)	186 N (22%) 487 P (56%) 19 R (2%) 175 Y (20%)	637 players (73%) 230 coaches (27%)	21.0 (7.4) 39.6 (14.6)	11.6 (7.4) 13.8 (10.8)
Study 5 (basketball)	596 ♂ (72%) 229 ♀ (28%)	193 N (23%) 466 P (57%) 13 R (2%) 153 Y (19%)	605 players (73%) 220 coaches (27%)	21.0 (7.8) 40.6 (14.0)	12.0 (7.8) 14.2 (11.0)

For the age and the years of experience, the standard deviation is presented in parentheses.
[a]The years of experience refers to the playing experience for players and the coaching experience for the coaches.
Note. ♂ = male team; ♀ = female team; N = national level; P = provincial level; R = recreational level; Y = youth level.

Table 2

Correlations between the nine team outcome confidence factors in soccer.

	Factor	1	2	3	4	5	6	7	8	9
1.	Positive coaching	*(.88)*								
2.	Team superiority	.45**	*(.78)*							
3.	Athletes' positive communication and confident body language	.64**	.60**	*(.87)*						
4.	Game preparation by the coach	.58**	.36**	.52**	*(.78)*					
5.	Recent team success	.30**	.51**	.43**	.32**	*(.81)*				
6.	Special starting circumstances	.48**	.36**	.49**	.45**	.23**	*(.71)*			
7.	Stimulating game circumstances	.15**	.38**	.28**	.22**	.40**	.18**	*(.69)*		
8.	Team inferiority	.25**	.14**	.27**	.30**	.19**	.39**	.27**	*(.80)*	
9.	Negative communication and expression	.01	.02	-.08*	.08**	.11**	.24**	.21**	.47**	*(.88)*

The Cronbach's α's for each factor are presented between parentheses on the diagonal.

*$p < .05$; **$p < .01$

Table 3

Means at factor level, including their standard deviations for the total sample, and for players and coaches separately.

	Factor	Total sample	Players	Coaches
1.	Positive coaching	1.54 ± .79 (1)	1.41 ± .76 (2)	1.67 ± .81 (1)
2.	Team superiority	1.38 ± .77 (2)	1.48 ± .72 (1)	1.30 ± .80 (3)
3.	Athletes' positive communication and confident body language	1.36 ± .67 (3)	1.32 ± .64 (3)	1.40 ± .70 (2)
4.	Game preparation by the coach	1.13 ± .83 (4)	.98 ± .86 (5)	1.29 ± .78 (4)
5.	Recent team success	1.03 ± 1.07 (5)	1.19 ± .97 (4)	.88 ± 1.13 (5)
6.	Special starting circumstances	.57 ± .77 (6)	.55 ± .74 (7)	.60 ± .80 (6)
7.	Stimulating game circumstances	.49 ± .91 (7)	.63 ± .87 (6)	.36 ± .93 (7)
8.	Team inferiority	-.43 ± .88 (8)	-.54 ± .87 (8)	-.32 ± .88 (8)
9.	Negative communication and expression	-.91 ± .81 (9)	-.82 ± .80 (9)	-.99 ± .80 (9)

The respective ranking of the factors is provided between parentheses.

Table 4.

Means of the six sources perceived as most predictive for high team outcome confidence (1-5) and low team outcome confidence (68-72) out of the 72-item list, based on the total sample.

		All data	Players	Coaches
1.	The coach believes that our team will win the match and he/she expresses this during the match.	1.69 (1)	1.60 (3)	1.77 (2)
2.	The coach motivates her/his players during the match.	1.68 (2)	1.51 (9)	1.84 (1)
3.	The coach always supports the players.	1.66 (3)	1.57 (6)	1.74 (3)
4.	Athlete leaders believe that our team will win the match and they express this on the field.	1.65 (4)	1.58 (5)	1.72 (4)
5.	The players play as one team, rather than pursuing their individual success.	1.64 (5)	1.64 (2)	1.63 (7)
6.	My team is in the lead during the second half of the match.	1.59 (6)	1.69 (1)	1.49 (15)
67.	The players fail to complete the tactical directives.	-.97 (67)	-.94 (67)	-1.00 (66)
68.	Some players react with anger and frustration when one of their teammates makes a fault.	-1.10 (68)	-1.05 (68)	-1.16 (68)
69.	The players display a discouraged body language when the opponent scores a goal.	-1.19 (69)	-1.09 (69)	-1.28 (70)
70.	The players communicate in a negative way with each other.	-1.21 (70)	-1.11 (70)	-1.30 (71)
71.	The players exhibit a discouraged body language.	-1.39 (71)	-1.30 (71)	-1.47 (72)
72.	Some players play selfishly during the match and do not pass to their teammates.	-1.39 (72)	-1.54 (72)	-1.24 (69)

The respective ranking of the items within each subsample (players and coaches) is provided between parentheses.

Table 5

Means at factor level including their standard deviations, correlations, and Cronbach's α's for the six team confidence factors in Study 4 and Study 5.

Factor	Total sample	Players	Coaches	1	2	3	4	5	6
Study 4 – Team outcome confidence factors									
1. Positive task focus	1.47 (1) ± .76	1.47 (1) ± .76	1.46 (2) ± .79	*(.94)*					
2. Positive coaching	1.42 (2) ± .81	1.36 (2) ± .84	1.58 (1) ± .70	.67**	*(.88)*				
3. Pregame match focus	1.24 (3) ± .84	1.22 (4) ± .86	1.30 (3) ± .77	.72**	.58**	*(.89)*			
4. Recent team success	1.19 (4) ± 1.17	1.26 (3) ± 1.13	1.01 (5) ± 1.26	.46**	.29**	.43**	*(.76)*		
5. Team enthusiasm	1.18 (5) ± .83	1.13 (5) ± .83	1.29 (4) ± .83	.54**	.60**	.54**	.25**	*(.84)*	
6. Negative communication and expression	-1.18 (6) ± .94	-1.19 (6) ± .93	-1.16 (6) ± .95	-.20**	-.08*	-.12**	-.02	.07*	*(.92)*
Study 5 – Collective efficacy factors									
1. Positive task focus	1.51 (3) ± .80	1.44 (3) ± .83	1.70 (3) ± .69	*(.93)*					
2. Positive coaching	1.59 (2) ± .90	1.45 (2) ± .95	1.98 (1) ± .60	.61**	*(.85)*				
3. Pregame match focus	1.18 (4) ± .89	1.08 (4) ± .93	1.45 (4) ± .72	.69**	.55**	*(.87)*			
4. Recent team success	.97 (5) ± 1.44	.97 (5) ± 1.46	.99 (5) ± 1.37	.43**	.22**	.38**	*(.74)*		
5. Team enthusiasm	1.59 (1) ± .78	1.55 (1) ± .80	1.72 (2) ± .70	.48**	.44**	.50**	.23**	*(.75)*	
6. Negative communication and expression	-1.40 (6) ± .91	-1.34 (6) ± .94	-1.55 (6) ± .81	-.49**	-.33**	-.34**	-.15**	-.23**	*(.90)*

The respective ranking of the factors is provided between parentheses.

*$p < .05$; **$p < .01$

Table 6.

Means of the six sources perceived as most predictive for high team confidence (1-6) and for low team confidence (91-96) out of the 96-item list, based on the total sample in basketball. The results for the sources of both team outcome confidence and collective efficacy are shown separately.

Sources of team outcome confidence		All data	Players	Coaches
1.	The players perform at their maximum.	1.93 (1)	1.94 (1)	1.90 (1)
2.	The players encourage each other before the game.	1.84 (2)	1.69 (9)	1.87 (2)
3.	The players play as one team, rather than pursuing their individual success.	1.79 (3)	1.77 (3)	1.85 (4)
4.	The players show a fighting spirit on the field.	1.77 (4)	1.77 (4)	1.79 (5)
5.	The players in our team feel that we are one closely knit team.	1.77 (5)	1.74 (6)	1.86 (3)
6.	Athlete leaders believe that our team will win the match and they express this on the field.	1.75 (6)	1.75 (5)	1.73 (10)
91.	Athlete leaders believe that our team will lose the game and they express this on the field.	-1.31 (91)	-1.32 (91)	-1.28 (91)
92.	The coach communicates in a negative way with his/her players.	-1.34 (92)	-1.27 (90)	-1.51 (94)
93.	My teammates believe that our team will lose the game and they express this on the field.	-1.42 (93)	-1.44 (93)	-1.39 (93)
94.	Some players play selfishly during the match and do not pass to their teammates.	-1.57 (94)	-1.54 (94)	-1.63 (96)
95.	The coach believes that our team will lose the game and expresses this on the field.	-1.59 (95)	-1.59 (95)	/
96.	The players communicate in a negative way with each other.	-1.63 (96)	-1.65 (96)	-1.57 (95)

Sources of collective efficacy		All data	Players	Coaches
1.	The players encourage each other before the game.	2.03 (1)	1.98 (1)	2.18 (7)
2.	The players perform at their maximum.	1.99 (2)	1.92 (2)	2.19 (5)
3.	Athlete leaders believe that our team will win the match and they express this on the field.	1.92 (3)	1.87 (5)	2.07 (8)
4.	The players in our team feel that we are one closely knit team.	1.91 (4)	1.80 (8)	2.19 (6)
5.	The players encourage each other during the game.	1.90 (5)	1.88 (4)	1.96 (15)
6.	The bench players are involved and concerned about the game.	1.89 (6)	1.83 (7)	2.03 (11)
91.	My teammates believe that our team will lose the game and they express this on the field.	-1.62 (91)	-1.53 (90)	-1.89 (93)
92.	Our captain believes that our team will lose the game and expresses this on the field.	-1.65 (92)	-1.60 (93)	-1.78 (91)

93.	Athlete leaders believe that our team will lose the game and they express this on the field.	-1.65 (93)	-1.57 (92)	-1.88 (92)
94.	Some players play selfishly during the match and do not pass to their teammates.	-1.66 (94)	-1.57 (91)	-1.90 (94)
95.	The coach believes that our team will lose the game and expresses this on the field.	-1.77 (95)	-1.77 (96)	/
96.	The players communicate in a negative way with each other.	-1.80 (96)	-1.74 (95)	-2.07 (95)

1018 The respective ranking of the items within each subsample (players and coaches) is provided
1019 between parentheses.
1020 The item on place 95 was not rated by the coach, because this source equals the outcome.

Appendix A

Detailed statistics for Study 2: component loadings, means at factor level and at item level for the sources of team outcome confidence in soccer.

Team outcome confidence factors and associated items	*Component loading*	*M*	*SD*
1. Positive coaching		**1.54**	**.79**
1. The coach motivates her/his players during the match.	.71	1.68	.92
2. The coach always supports the players.	.66	1.66	1.00
3. The coach communicates in a positive way with the players.	.64	1.50	.95
4. During half-time, the coach mainly emphasizes the positive actions.	.60	1.20	1.03
5. The coach believes that our team will win the match and he/she expresses this during the match.	.54	1.69	.93
2. Team superiority		**1.38**	**.77**
6. My team is in the lead during the first half of the match.	.80	1.22	1.09
7. My team is in the lead during the second half of the match.	.79	1.59	1.12
8. My team makes a goal after a collectively executed attack.	.63	1.54	1.01
9. My team starts the match with a well-executed action.	.60	1.17	.98
10. My team did really well during the first 20 minutes of the match.	.59	1.40	1.06
3. Athletes' positive communication and confident body language		**1.36**	**.67**
11. Athlete leaders believe that our team has the capabilities to play well during the match.	.72	1.52	.96
12. Both the field players and the bench players cheer enthusiastically during the match.	.69	1.26	.98
13. The bench players encourage the players on the field.	.68	1.03	1.03
14. Athlete leaders believe that our team will win the match and they express this on the field.	.68	1.65	.97
15. The players strongly encourage each other during the match.	.67	1.31	.99
16. The players display a positive body language (e.g., expressions of self-confidence).	.63	1.40	.89
17. Others (e.g., parents, supporters) encourage our team.	.61	1.35	.93
18. The players clearly express that they are enjoying the match.	.61	1.43	1.00
19. During the match, the players communicate a lot about the tactics to be followed (e.g., give each other tactical instructions).	.52	.97	1.04
20. The players play as one team, rather than pursuing their individual success.	.51	1.64	1.07
4. Game preparation by the coach		**1.14**	**.83**
21. The coach prepared the team tactically well for the match.	.63	1.39	1.02
22. Last week our team trained at a high level.	.55	1.26	1.20
23. The coach endeavours to strengthen the mental condition of the team (anxiety, motivation, etc.).	.54	.84	1.23
24. The coach works with the players about how to deal with feelings of stress and anxiety (e.g., when you spoiled a penalty kick).	.52	.70	1.25
25. The coach gave the team a motivating pep talk before the match.	.47	1.50	1.06
5. Recent team success		**1.03**	**1.07**
26. My team won the last two matches.	.80	1.06	1.50

27. My team won the match of last weekend.	.78	.93	1.45
28. My team won the last match against the same opponent.	.69	.97	1.48
29. My team ranks higher than the opponent.	.61	1.00	1.41
31. My team played well during the last match.	.52	1.20	1.25
6. Special starting circumstances		**.57**	**.77**
32. The players feel pressure to perform well.	.51	.19	1.36
33. The parents of the players are in the audience.	.49	.70	1.21
34. The team did an enthusiastic yell at the start of the match.	.48	.93	1.26
35. The players are nervous at the start of the match.	.47	.30	1.23
36. The players of the opposing team look physically strong.	.47	-.14	1.12
37. The players warm up concentrated before the match.	.43	1.46	1.06
7. Stimulating game circumstances		**.49**	**.91**
38. A player of the opposing team gets excluded.	.66	.89	1.29
39. My team had a special preparation for this match (e.g., eating together).	.66	.26	1.30
40. Some players play against their former team.	.63	.67	1.47
41. The players will be rewarded for winning this match (e.g., the players get a financial reward if they win).	.54	.73	1.53
42. A player of our team doesn't get his usual player's number.	.47	-.12	1.25
8. Team inferiority		**-.43**	**.88**
43. My team is behind during the second half of the match.	.77	-.72	1.33
44. My team is behind during the first half of the match.	.76	-.27	1.15
45. A player of our team gets excluded.	.64	-.79	1.21
46. The players of the opposing team believe they will win the match and they clearly display this on the field.	.56	-.17	1.17
47. My team misses a penalty kick.	.49	-.18	1.05
9. Negative communication and expression		**-.91**	**.81**
48. The players exhibit a discouraged body language.	.79	-1.39	1.21
49. Some players react with anger and frustration when one of their teammates makes a fault.	.77	-1.10	1.15
50. The players display a discouraged body language when the opponent scores a goal.	.74	-1.19	1.23
51. The players communicate in a negative way with each other.	.74	-1.21	1.09
52. Some players display their frustration after dubious decisions by the referee	.72	-.87	1.17
53. Some players play selfishly during the match and do not pass to their teammates.	.70	-1.39	1.19
54. The players fail to complete the tactical directives.	.66	-.97	1.21
55. Some players ignore a teammate who made a fault, rather than encouraging him/her.	.65	-.63	1.12
56. The players commit serious fouls against the opponent.	.57	-.69	1.22
57. The players do not dare to undertake difficult actions (e.g., individual action, one against one).	.50	-.48	1.25
58. Some players start to intimidate or challenge the opponent.	.41	-.04	1.25

Appendix B

Detailed statistics for Study 4 and Study 5: component loadings, means at factor level and at item level for the sources of team confidence in basketball.

Team confidence factors and associated items	*Component loading*	Study 4		Study 5	
		M	*SD*	*M*	*SD*
1. Positive task focus		**1.47**	**.76**	**1.51**	**.80**
1. The players show self-confidence.	.67	1.69	.95	1.74	1.04
2. My team controls the rebound.	.67	1.44	1.19	1.24	1.28
3. Each player fulfils his/her task well.	.66	1.58	1.07	1.51	1.14
4. The players play as one team, rather than pursuing their individual success.	.61	1.79	1.11	1.80	1.20
5. The players show a positive body language.	.61	1.53	.94	1.71	1.00
6. The players show a fighting spirit on the field.	.61	1.77	1.08	1.83	1.12
7. The players steer each other and give each other tactical advice.	.61	1.47	1.05	1.44	1.09
8. The players perform a 1-against-1 action at the right moment.	.61	1.42	1.06	1.31	1.18
9. The players perform at their maximum.	.60	1.93	.99	1.99	1.10
10. The players play in a concentrated and focused way.	.60	1.65	.99	1.64	1.11
11. A mistake during an attack is repaired by the defense.	.59	1.29	1.06	1.30	1.15
12. When our team is behind, we build up our play in a quiet way without rushing.	.56	.97	1.14	1.05	1.24
13. Despite experiencing adversities, the players keep fighting.	.53	1.33	1.03	1.73	.99
14. The players warm up concentrated during the break.	.53	1.17	1.12	1.16	1.29
15. The players ask the coach for individual advice.	.53	.91	1.19	.86	1.39
16. The atmosphere in the team is good during the match.	.50	1.59	1.00	1.84	1.05
2. Positive coaching		**1.42**	**.81**	**1.59**	**.90**
17. The coach motivates the players during the game/match.	.71	1.60	1.00	1.86	1.11
18. The coach assesses the actions of the opposing team correctly and gives advice on how to react.	.68	1.62	.99	1.60	1.17
19. The coach shows enthusiasm.	.63	1.58	1.01	1.83	1.14
20. The coach tactically steers his/her players during the match.	.61	1.62	.96	1.83	1.08
21. The coach focuses on the future actions and not on what has passed.	.55	1.12	1.03	1.24	1.18
22. The coach emphasizes the positive instead of the negative actions of our team.	.52	.98	1.20	1.17	1.40
3. Pregame match focus		**1.24**	**.84**	**1.18**	**.89**
23. My team listens very concentrated during the preview of the match.	.66	1.28	1.18	1.40	1.27
24. The players warm up intensively before the match.	.63	1.15	1.32	.97	1.39
25. Last week our team trained at a high level.	.63	1.36	1.22	1.07	1.39
26. This match was prominently in our players' mind during the whole last week.	.63	1.15	1.28	.93	1.49
27. The players took care of their body before the match (e.g., enough rest, healthy food, etc.).	.60	.78	1.22	.65	1.45
28. The coach prepared the team tactically well for the match.	.59	1.43	1.15	1.56	1.36
29. Last week, the players steered each other during the training sessions.	.56	1.12	1.20	1.14	1.22
30. The players know the opposing team well and they also know their direct	.55	1.15	1.30	1.04	1.49

opponent.					
31. The players show a positive body language during the warming-up.	.53	1.61	1.13	1.74	1.12
32. The coach let the players think along when determining the match strategy.	.52	.80	1.25	.56	1.60
33. The players in our team feel that we are one closely knit team.	.51	1.77	1.15	1.91	1.17
4. Recent team success		**1.19**	**1.17**	**.97**	**1.44**
34. My team ranks higher than the opponent.	.66	1.14	1.64	.84	2.14
35. My team is in the lead at the break halfway the match.	.64	1.07	1.12	1.02	1.30
36. My team won the last match against the same opponent.	.60	1.15	1.78	.88	2.18
37. My team already won a few matches in a row.	.56	1.40	1.53	1.15	1.95
5. Team enthusiasm		**1.18**	**.83**	**1.59**	**.78**
38. Parents or friends of the players are in the audience.	.62	1.37	1.26	1.82	1.35
39. My team reacts enthusiastically after scoring a point.	.60	1.29	1.00	1.65	.97
40. The coach of the opposing team takes time-outs or substitutes players.	.60	.94	1.23	1.57	1.27
41. After the time-out, our team did an enthusiastic yell.	.59	1.12	1.13	1.54	1.17
42. The players quickly return to the bench after a time-out or a substitution.	.56	.88	1.12	1.14	1.26
43. The team did an enthusiastic yell at the start of the match.	.54	1.10	1.30	1.53	1.36
44. The bench players are involved and concerned about the game.	.52	1.52	1.02	1.89	1.12
6. Negative communication and expression		**-1.18**	**.94**	**-1.40**	**.91**
45. The players communicate in a negative way with each other.	.77	-1.63	1.39	-1.80	1.36
46. Athlete leaders believe that our team will lose the game and they express this on the field.	.73	-1.31	1.28	-1.65	1.35
47. The players play selfishly during the match and do not pass to their teammates.	.70	-1.57	1.38	-1.66	1.42
48. The players do not encourage each other in a tough situation.	.67	-1.16	1.42	-1.49	1.46
49. My teammates believe that our team will lose the game and they express this on the field.	.67	-1.42	1.30	-1.62	1.38
50. The players react with anger and frustration when one of their teammates makes a fault or does not score.	.67	-1.23	1.4	-1.35	1.48
51. The players do not return quickly in the transition from attack to defense.	.66	-1.18	1.54	-1.16	1.64
52. The coach communicates in a negative way with his/her players.	.66	-1.34	1.32	-1.58	1.44
53. The coach believes that our team will lose the game and expresses this on the field.	.65	-1.59	1.37	-1.77	1.38
54. The players do not communicate with each other or with the coach.	.64	-1.28	1.54	-1.62	1.61
55. The players fail to complete the tactical directives.	.64	-.85	1.27	-.90	1.42
56. Some players ignore a teammate who made a fault, rather than encouraging him/her.	.63	-.92	1.32	-1.32	1.44
57. The players exhibit a discouraged body language (e.g., hanging one's shoulders, sighing, etc.).	.63	-1.10	1.35	-1.26	1.40
58. The players commit serious fouls against the opponent.	.56	-.76	1.32	-1.07	1.43
59. The players do not dare to undertake difficult actions (e.g., individual action, one against one).	.55	-.79	1.49	-1.00	1.65
60. Our captain believes that our team will lose the game and expresses this on the field.	.54	-1.16	1.41	-1.65	1.45
61. The players do not fight duels with their direct opponent.	.51	-.90	1.59	-1.00	1.77

Appendix C

The fit indices of the confirmatory factor analyses for each of the collective efficacy factors of Study 5.

Collective efficacy factor	χ^2/df	*RMSEA*	*CFI*	*TLI*
1. Positive task focus	5.31	.07	.94	.93
2. Positive coaching	3.89	.06	.99	.98
3. Pregame match focus	3.57	.06	.96	.95
4. Recent team success	2.12	.04	1.00	.99
5. Team enthusiasm	1.22	.02	1.00	1.00
6. Negative communication and expression	3.77	.07	.91	.90